

PHOTOGRAPHY

FAQ

Q What is dynamic range boosting, and why does it result in increased noise levels?

A In high-contrast scenes, digital cameras struggle to capture the brightest and darkest parts of the image, instead recording them as pure white and noisy black. Various cameras, including the Pentax A40 (above right) and Nikon D60 (opposite), try to recover some of the lost image using digital processing to boost the brightness of darker areas. The Nikon also reduces its exposure settings slightly to capture a little more of the highlights.

The downside is that boosting the dark areas also boosts any noise that's contained in them. It also makes the noise more noticeable as it's brought into a more visible – and interesting – part of the colour spectrum.

Ben Pitt

Music and photography expert

ben@computershopper.co.uk

PENTAX Optio A40

★★★★★

£175 inc VAT

From www.bristolcameras.co.uk

The Optio A40 is the successor to the A30, a camera that impressed us greatly in our compact digital cameras Labs (*Shopper 238*). It wasn't without fault, but it took attractive pictures quickly and reliably, and was competitively priced.

It's disappointing to see that the A40 increases the resolution from 10 to 12 megapixels. That might sound odd, but we've yet to see a 12-megapixel compact camera that offers significantly more detail than 10- and even 8-megapixel models. More often the noise levels, performance and price change for the worse. Here, the latter seems to be true: the A40 costs a lot more than the A30 did. However, it's reassuring to see that performance remains excellent. We managed to capture a shot every 1.4 seconds during normal shooting, and every two seconds with the flash.

Continuous shooting remains respectable at 1.1fps.

Dynamic-range boosting seems to be the must-have new feature for 2008 (see FAQ, left, for details). Unlike a similar feature in Nikon's D60 (opposite), the A40 doesn't reduce the exposure to capture a little more highlight detail, although this can be achieved manually with the exposure compensation control.

Still, we really like the A40's implementation, as its tendency to increase noise levels is less than in other systems we've seen; the camera appears to compensate with heavier noise reduction.

We also like that there are four settings from which to choose: Off, Weak, Strong and Auto. The first three behaved as expected, but Auto was extremely effective at finding the best processing strength depending on the scene being shot. In scenes with no clipped shadows



and highlights, it appeared to have no effect at all, while in very high-contrast scenes, the results matched those of the Strong setting. This means it's possible to leave the feature in Auto mode, safe in the knowledge that it will improve photos when necessary and not damage them at other times.

Sadly, some of the A30's weaker areas remain unresolved. Optical image stabilisation is built into the sensor, but it managed to keep only around a quarter of photos sharp when using a 1/30s shutter speed and telephoto zoom position. The face detection system is slow and clumsy at locating faces and the manual exposure feature could be easier to adjust. Still, having this at all on a compact camera is always welcome.

Image quality closely resembled the A30's, with

pleasing exposures in a range of conditions and flattering portraits. Side-by-side comparisons suggest a slight improvement in detail, but it appears that digital sharpening plays as much a part as the extra pixels, exaggerating contrast in fine textures. Ultimately, however, detail isn't significantly better than it is from Samsung's NV8 (see 'Also consider...' below opposite), which exhibits much less noise and is far more affordable.

Ben Pitt

SUMMARY

- ✓ Compact, feature-packed design
- ✓ Effective dynamic range boosting
- ✗ 12 megapixels bring little benefit

DIGITAL CAMERA 12 megapixels (4,000x3,000), 3x optical zoom (38–114mm), SDHC slot (22MB internal), Li-ion battery
PART CODE 19364
DETAILS www.pentax.co.uk

PERFORMANCE (see page 66)



Also consider...

PENTAX Optio A30

★★★★★

£130 inc VAT

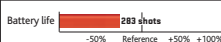
From www.ebuyer.com

COMPUTER SHOPPER
BEST BUY

The Optio A30 has a 10-megapixel sensor and an optically stabilised 3x zoom lens. It's possible to set the maximum ISO speed in the Auto ISO mode, and this helps to reduce noise. This camera is quick to focus and images have warm, vibrant colours. Portraits have natural skin tones and highlights are not clipped.



DIGITAL CAMERA 10 megapixels (3,648x2,736), 3x optical zoom (38–114mm), SDHC slot (22MB internal), 710mAh Li-ion battery
PART CODE 19215
DETAILS www.pentax.co.uk
FULL REVIEW Dec 2007



PANASONIC Lumix DMC-FZ18

PRICE CUT!

★★★★★

£210 inc VAT

From www.bigcitydigital.co.uk

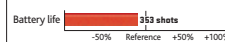
COMPUTER SHOPPER
BEST BUY

Panasonic's DMC-FZ18 has a huge 18x optically stabilised zoom lens and is capable of stunning photos. It has a comprehensive range of controls and is fairly fast to start up and take shots.

The 8-megapixel sensor may not have the highest resolution, but the DMC-FZ18 comes close to entry-level DSLR quality for less money. It's the best super-zoom digital camera around.



DIGITAL CAMERA 8 megapixels (3,264x2,448), 18x optical zoom (28–504mm), SDHC slot (27MB internal), Li-ion battery
PART CODE DMC-FZ18EB-K
DETAILS www.panasonic.co.uk
FULL REVIEW Mar 2008



NIKON

D60 18-55 VR Kit

★★★★★

£443 inc VAT

From www.purelygadgets.co.uk

The D60 is Nikon's update to the popular D40x. It's available in three packages: body-only from around £375, with a standard 18-55mm lens from around £450 or with the 18-55mm VR lens reviewed here. VR stands for Vibration Reduction, Nikon's name for optical image stabilisation. This kit is meant to cost around £30 more than the standard lens kit, but at current prices it's cheaper, making it the obvious choice between the two.

We tested the stabilised lens by taking 20 shots with a $\frac{1}{30}$ s shutter speed at the full telephoto zoom setting and counting how many were sharp, almost sharp and blurred. Thirteen of these were sharp, with the others almost sharp – an excellent result. Continuing into slower shutter speeds, the results were just as good at $\frac{1}{15}$ s and even $\frac{1}{8}$ s, and it wasn't until we reached $\frac{1}{4}$ s that the majority of shots were at least a little blurred. We've seen Nikon's VR technology outperform competitors before, but this result is unprecedented.

On the camera itself, hardware improvements over the D40x include a two-part cleaning system for removing dust that enters the camera while changing lenses. There's also a sensor that detects the orientation of the screen and rotates its image accordingly, and another sensor that switches the screen off when the camera is held up to your eye. Strangely, the latter sometimes had no effect.

The only other visible change is that the D40x's largely redundant Info button now accesses a new Active D-Lighting feature. This is taken from Nikon's more expensive digital SLRs. Enabling it decreases the exposure slightly and uses digital processing to boost shadows, effectively increasing the dynamic range of photos. It's a great idea that we've seen work well in other cameras. Here, the benefit is subtle and – inevitably – comes at the expense of increased noise in shadows, but it's still welcome. The menu system has undergone various tweaks, but Nikon has made it even harder to locate the extremely useful configurable auto-ISO mode.

We're not worried that the sensor has remained at 10 megapixels and we're happy to see the same body and viewfinder as on the D40x. However, it's disappointing that there's no internal focus drive motor; this limits which lenses can be used with the camera. Unlike some

of its rivals, Nikon still hasn't introduced a live preview on the LCD screen and there are no exposure or white-balance bracketing options.

Our image-quality tests revealed the same sharp detail and vibrant colours we've seen from the D40x. Noise reduction appears to be improved, letting a bit more noise through at high ISO speeds but retaining more detail as a result. The



lens's stabilisation helped produce more sharp shots, and we also found that this lens gave significantly improved corner sharpness compared to the D40x's kit lens.

The D40x is an excellent camera, and the D60 is a worthwhile if not particularly exciting update. However, it fails to address the areas where the D40x lags behind its main rival, Canon's EOS 400D. The Canon has lower noise at high ISO speeds, more immediate controls, bracketing options and better RAW-processing software. The D60's optically stabilised lens is great, but the 400D is available with a 18-55mm stabilised lens from www.7dayshop.com for £462 (or just £417 if you factor in Canon's £45 cashback offer, which is available until 30th June).

The D60 will soon have the EOS 450D to compete with. This successor to the 400D has a 12-megapixel sensor, a 3in LCD screen with live view and a claimed 3.5fps continuous mode. The 450D is expected to cost around £530 with a stabilised 18-55mm lens when it launches in the next month or two. As such, Nikon might have to drop the price of the D60 18-55 VR Kit if it wants to grab customers' attention away from such a tantalising adversary.

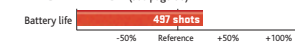
Ben Pitt

SUMMARY

- ✓ Sharp pictures from stabilised lens
- ✓ High image quality
- ✗ No internal auto-focus motor

DIGITAL CAMERA 10 megapixels (3,872x2,592), 3x optical zoom (27-82.5mm), SDHC slot (none supplied), Li-ion battery
PART CODE VBA210KU02
DETAILS www.nikon.co.uk

PERFORMANCE (see page 66)

NIKON
Coolpix P5100

★★★★★

£196 inc VAT

From www.purelygadgets.co.uk

The Coolpix P5100 has a hotshoe and threaded lens ring for attaching accessories, and its body looks smart and feels robust. It's slow, taking three seconds between shots, but its image quality is excellent. Colour reproduction reminded us of SLR cameras. It's a pleasure to use and has stunning image quality.



DIGITAL CAMERA 12 megapixels (4,000x3,000), 3.5x optical zoom (35-123mm), SDHC card slot (25MB internal), Li-ion battery
PART CODE VA840B1
DETAILS www.nikon.co.uk
FULL REVIEW Feb 2008

SAMSUNG
NV8

★★★★★

£100 inc VAT

From www.play.com

Samsung's 19mm-thick NV8 is a superb compact camera. It has full manual control, although it lacks priority modes and manual focus. It's fast, with quick auto-focus and a great screen that lets you see when your subject is in focus. Shots are sharp and reproduce fine textures faithfully. Noise isn't a problem thanks to the large sensor, and colours are accurate. At this price, it's a bargain.



DIGITAL CAMERA 8 megapixels (3,264x2,448), 3x optical zoom (34-102mm), SDHC slot (20MB internal), Li-ion battery
PART CODE 880108943538
DETAILS www.samsungcamera.com/uk
FULL REVIEW Apr 2008

CANON
PowerShot A720 IS

★★★★★

£125 inc VAT

From www.camerabox.co.uk

The A720 IS has a 6x optical zoom, which makes it heavier than most compact cameras. There's a wealth of options, including full control over aperture, shutter and ISO speed plus focus. Excellent feedback on the 2½in screen helps you choose the best settings.

This is an unbeatable deal for anyone with artistic aspirations on a limited budget.



DIGITAL CAMERA 8.1 megapixels (3,264x2,448), 6x optical zoom (35-210mm), SDHC slot (16MB card supplied), 2x AA batteries
PART CODE 20928007AA
DETAILS www.canon.co.uk
FULL REVIEW May 2008



CANON PowerShot A590 IS

★★★★★

£110 inc VAT

From www.rankhour.com

The A590 IS's name, specifications and price make it the logical successor to the A570 IS (reviewed *What's New, Shopper 237*), a camera we loved for its dependable image quality, 4x zoom, optically stabilised lens, comprehensive manual controls and low price. This new model makes the step from 7 to 8 megapixels. Performance remains impressive, although the use of two AA batteries limits flash recycling speed to around four seconds. The higher pixel count has taken a small bite out of the continuous speed, which is now 1.4fps.

There are some interesting additions to the camera's firmware. Face detection now bolsters white balance, focus, exposure and flash settings. The Hi ISO option uses motion detection as well as light measurements to pick the best ISO speed for a given shot. Red-eye reduction has been tweaked, too. It's hard to pinpoint how effective and useful these technologies are but, for whatever reason, the A590 IS produced expertly judged exposures time after time. There's no dynamic-range boost feature (see FAQ, page



42), but using standard settings, the A590's dynamic range was a little wider than the other compact cameras' this month. Noise levels at high ISO speeds weren't a patch on Samsung's NV8 (see 'Also consider...' page 43), though, and detail wasn't as sharp. Still, compared to most other 8-megapixel compact cameras, detail and noise levels were both respectable.

The A590 IS is an excellent budget camera, but Samsung's NV8 and Canon's own A720 IS ('Also consider...' page 43) take better photos. The two PowerShots are similarly priced and their raw image quality is indistinguishable. The A590 is slightly better at automatic shooting, but the A720's 6x zoom has a greater impact on the quality of photos.

Ben Pitt

SUMMARY

- ✓ Superb automatic exposures
- ✓ Comprehensive manual controls
- ✗ Noisy at high ISO speeds

DIGITAL CAMERA 8 megapixels (3,264x2,448), 4x optical zoom (35-140mm), SDHC slot (32MB supplied), 2x AA batteries
PART CODE 2462B008AA
DETAILS www.canon.co.uk

PERFORMANCE (see page 66)



FUJIFILM FinePix F480

★★★

£89 inc VAT

From www.askdirect.co.uk

Not so long ago, Fujifilm's F range of compact digital cameras led the field for image quality. However, the F50fd (*What's New, Shopper 239*) suffered from serious noise problems because of its over-ambitious 12-megapixel sensor, and it seems that the range isn't as good as it once was. However, we were interested to find out whether the F480 could revive past glories. Its relatively humble 8-megapixel sensor should be less susceptible to noise, and its 4x zoom lens with a generous 28mm wide-angle setting is great for such an affordable camera.

The 2.7in screen with its 230,000-pixel resolution is welcome, too, and controls are simple and friendly. Performance is poor, though, even by Fujifilm's conservative standards. There was a 4½-second gap between shots during normal shooting and the continuous mode managed just three shots – two seconds between each – with a blank screen giving no visual feedback. At least switching on and focusing was quick, so the poor performance won't affect those who don't take photos in quick succession.



Photographic options are strictly limited; there's no exposure, metering or focus modes and not even face detection. This wouldn't be a problem if the camera could cope well when left to its own devices, but sadly this is far from true. Photos were frequently under- or overexposed and lacked vibrancy. Details were vague and artificial-looking in bright conditions, and much worse in low light, where digital processing suppressed both noise and

details. Video capture is limited to 320x240-pixel frames – a quarter of the detail of most cameras' video modes.

With poor performance, limited controls and flawed image quality, there's no reason to choose the F480. Those wanting an affordable compact camera with a wide-angle lens should save up a little more for Panasonic's DMC-FX33 (*What's New, Shopper 240*).

Ben Pitt

SUMMARY

- ✓ Wide-angle lens
- ✗ Numerous image quality concerns
- ✗ Poor performance

DIGITAL CAMERA 8 megapixels (3,264x2,448), 4x optical zoom (28-112mm), xD and SDHC slots (12MB supplied), Li-ion battery
PART CODE NC00320A
DETAILS www.fujifilm.co.uk

PERFORMANCE (see page 66)



CHOOSING A... Digital SLR Camera

Follow the steps to find your ideal specs

RESOLUTION: 10 megapixels

SUPPLIED LENS: 18-55mm, f/3.5-f/5.6

MONITORING: 2½in, 215,000-pixel LCD screen

CONTINUOUS SHOOTING: 2½fps

SUPPLIED MEMORY: None

Recommended minimum in grey

1 A digital SLR camera with the specifications shown above will cost around £400 and suit photography enthusiasts on a budget. Despite being an entry-level digital SLR, image quality will be in a different league to all but the best fixed-lens cameras, particularly when it comes to smooth, sharp detail with minimal image noise.

2 Spend more and you'll get a camera with a higher resolution. Ten megapixels is common for entry-level models. This gives finer detail, although the improvement over eight megapixels isn't as great as the figures might suggest.

3 The kit lenses supplied with budget digital SLRs can take excellent pictures, but their zoom ranges and macro-focus capabilities are limited. If you're interested in telephoto photography, consider buying a second lens, perhaps with a 70-200mm focal length. Alternatively, buy a body-only camera and an 18-200mm or similar lens. Aperture values tell you how much light the lens can capture at either end of its zoom range; the lower the f-number, the brighter the lens.

4 A 2½in, 215,000-pixel screen is standard among digital SLRs, but you'll be using the optical viewfinder to compose shots. Its through-the-lens (TTL) view shows exactly what is captured by the camera's sensor and makes manual focusing easy. A second, passive LCD screen is useful for displaying camera settings.

5 Most entry-level SLRs outperform even the fastest compact cameras. However, look out for a fast continuous mode, autofocus and shutter lag if quick-fire photography is a priority.

6 Digital SLRs usually don't come with any storage, so budget around £10 for a fast (at least 60x) 2GB CompactFlash or SD card to ensure that it doesn't create a performance bottleneck.